

5 of said thermal sensor being coupled to said interrupt handler such that  
6 detection of said threshold temperature generates an interrupt in said  
7 processing unit, and generation of said interrupt in said microprocessor  
8 invokes said thermal sensor interrupt service routine for controlling the  
9 temperature of said microprocessor.

1 (Once amended) 30 [31]. The microprocessor as set forth in  
2 claim 29 [30] further comprising a clock coupled to said processing unit for  
3 generating clock timing for said processing unit, said thermal sensor interrupt  
4 service routine controlling said clock so as to reduce the frequency of said  
5 clock timing.

1 (Once amended) 31 [32]. The microprocessor as set forth in  
2 claim 29 [30] further comprising a fan coupled to said processing unit for  
3 cooling said microprocessor, said thermal sensor interrupt service routine  
4 activating said fan to cool said microprocessor.

1 (Once amended) 32 [33]. The microprocessor as set forth in  
2 claim 27 further comprising external sensor logic coupled to said processing  
3 unit and a counter coupled to said external sensor logic, and a clock to  
4 provide timing for said processing unit, said external sensor logic receiving  
5 said detect signal, and programming said counter to reduce the frequency of  
6 said clock when said thermal sensor means detects said threshold  
7 temperature.

1 (Once amended) 33 [34]. The microprocessor as set forth in  
2 claim 27 wherein said microprogram further includes a reset function that

3 programs said thermal sensor after detection of a threshold temperature, said  
4 microprogram receiving said detect signal and programming a value in said  
5 thermal sensor means indicating a new threshold temperature.

1 (Once amended) 34 [35] A computer system comprising:  
2 a microprocessor comprising;  
3 a processing unit for executing operations in accordance with a  
4 plurality of instructions,  
5 a thermal sensor programming circuit for generating a value  
6 representative of a threshold temperature for said microprocessor,  
7 a programmable thermal sensor coupled to said processing unit  
8 for detecting temperature characteristics in said microprocessor, said  
9 programmable thermal sensor receiving said value from said thermal sensor  
10 programming circuit and transmitting a detect signal, said processing unit,  
11 when said microprocessor attains said threshold temperature,  
12 an interrupt handler for changing control of execution of said  
13 instructions in said processing unit based on an event,  
14 an output display device including an input/output (I/O) coupled to  
15 said microprocessor for displaying pixels; and  
16 a memory coupled to said microprocessor for storing said plurality of  
17 instructions and data, said plurality of instructions including an interrupt  
18 service routine and an operating system, said interrupt handler in said  
19 microprocessor receiving said detect signal and calling said interrupt service  
20 routine, and said interrupt service routine generating a message indicating  
21 the microprocessor attained said threshold temperature, said message being  
22 displayed to said output display via said operating system.